



AF / GP 3721
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re application of: Masao Fukuda, et al.

Attorney Docket No.: ISHDP165D1

Application No.: 09/996,624

Examiner: C. Harmon

Filed: November 28, 2001

Group: 3721

Title: PACKAGING MACHINE

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first-class mail on September 25, 2003 in an envelope addressed to the Commissioner for Patents, Mail Stop Appeal Brief-Patents, P.O. Box 1450 Alexandria, VA 22313-1450.

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Deborah Neill
Deborah Neill

**APPEAL BRIEF TRANSMITTAL
(37 CFR 192)**

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This brief is in furtherance of the Notice of Appeal filed in this case on August 4, 2003.
This brief is transmitted in triplicate.

This application is on behalf of

☐

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☒

Large Entity

Pursuant to 37 CFR 1.17(f), the fee for filing the Appeal Brief is:

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\$160.00 (Small Entity)

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Applicant(s) hereby petition for a _____ extension(s) of time to under 37 CFR 1.136.

If an additional extension of time is required, please consider this a petition therefor.

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Applicant(s) believe that no (additional) Extension of Time is required; however, if it
is determined that such an extension is required, Applicant(s) hereby petition that such an

extension be granted and authorize the Commissioner to charge the required fees for an Extension of Time under 37 CFR 1.136 to Deposit Account No. 500388.

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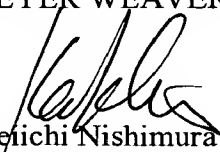
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Respectfully submitted,
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BRIEF

Attorney Docket No.: ISHD P165D1

Examiner: C. Harmon

Group: 3721

Title: PACKAGING MACHINE

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to the Commissioner for Patents, Alexandria, Virginia 22313, on September 25, 2003.

Deborah Neill

Sir:

This brief, transmitted herewith in triplicate, is in furtherance of the Notice of Appeal mailed in the above-referenced application on August 4, 2003. The fees required under 37 C.F.R. 1.17(f) and any other fees required for filing are enclosed.

This brief contains pursuant to 37 C.F.R. 1.192(c) the items under the following headings

and in the order set forth below:

- | | |
|------|---|
| I | Real Party in Interest |
| II | Related Appeals and Interferences |
| III | Status of Claims |
| IV | Status of Amendments |
| V | Summary of Invention |
| VI | Issues |
| VII | Grouping of Claims |
| VIII | Arguments |
| IX | Appendix of Claims Involved in the Appeal |

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The real party in interest of this application and of this appeal is:

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ISHIDA CO., LTD., which is a Japanese corporation doing business at 44 Sanno-cho, Shogoin, Sakyo-ku, Kyoto, Japan and is the assignee in entire rights to this application.

II. Related Appeals and Interferences

Notice of Appeal was filed on August 4, 2003 in application Serial No. 09/372,009, of which the instant application is a divisional application, and Appeal Brief therefor is being submitted simultaneously herewith. Some of the issues may be considered similar or related and have a bearing on the Board's decision in the pending appeal.

There are no other appeals or interferences known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

This application was filed as a divisional application with five (5) claims of which one (1) was an independent claim (claim 1). Claims 6-17 in the parent application were thereby cancelled.

Claims 1-5 were rejected in an office action dated February 27, 2002. In applicant's response, claim 2 was amended and became an independent claim and new dependent claims 18-20 were added.

Claims 1-5 and 18-20 were rejected in a final office action dated July 19, 2002, and Notice of Appeal was mailed on October 14, 2002.

Appeal Brief was mailed on November 22, 2002.

In response to Communication from the examiner mailed January 6, 2003, Revised Appeal Brief incorporating required changes was mailed January 27, 2003.

Prosecution was reopened by the primary examiner and claims 1-5 and 18-20 were rejected in an office action dated April 1, 2003. Applicant's response, in which no amendment was made to rejected claims 1-5 and 18-20, was mailed on June 24, 2003.

Claim 1-5 and 18-20 were rejected in another final office action dated July 10, 2003, and another Notice of Appeal was mailed on August 4, 2003.

The status of the claims as set in said final action was and is as follows:

allowed claims	--- none
claims objected to	--- none
cancelled claims	--- 6-17
claims rejected	--- 1-5 and 18-20

IV. Status of Amendments

None of claims 1-5 and 18-20 has been amended.

The claims as set out in the Appendix are the claims as currently pending.

V. Summary of Invention

This invention is in the technical field of form-fill-seal type packaging machines having a heater unit for longitudinally sealing overlapping side edge portions of an elongated bag-making material. As shown in Figs. 1, 2 and 3 of the specification, a packaging machine 1 of this type has a cylindrical chute 4, a former 3 for bending an elongated bag-making film material into a tubular form around this chute 4 such that its side edges will overlap, and a heater unit 50 for longitudinally sealing these overlapped side edges of the film. A heater driving means 70 causes the heater unit 50 to undergo a relatively larger-scaled motion from a retracted position away from the chute 4 to a sealing position at which the heater unit 50 contacts the film. While the heater unit 50 is at this sealing position, the compressive pressure applied by the heater unit 50 to

the film around the chute 4 is controlled by an air cylinder 66 (page 8, lines 5-8 of the specification). The pressure of air supplied to this air cylinder 66 is regulated to be at a specified relatively lower level by a pressure regulating means 101 controlled by a controller 105 (Fig. 8).

VI. Issues

Claims 1, 4 and 5 were rejected in the aforementioned final office action dated July 10, 2003 (hereinafter simply "the Final Office Action") under 35 U.S.C. 102 as being anticipated by Fukuda (US 5,125,217) (hereinafter "Fukuda"), the Examiner stating that Fukuda discloses "an air cylinder 78 for controlling the compressive force of the heater unit 55 and film S" (at lines 6-7 of Paragraph 2 with emphasis added) and that the "movement of the heater inherently controls the compressive force on the web" (at lines 2-3 of Paragraph 6 with emphasis added).

ISSUE 1: DOES FUKUDA DISCLOSE AN AIR CYLINDER FOR CONTROLLING THE COMPRESSIVE FORCE OF THE HEATER UNIT AND FILM?

In said Final Office Action, claims 1, 2, 4, 5, 19 and 20 were rejected under 35 U.S.C. 103 over Fukuda in view of Husted (US 4,930,403) (hereinafter "Husted"), the Examiner stating that it would have been obvious to use Husted's air cylinder in the invention of Fukuda.

ISSUE 2: WAS THERE ANY MOTIVATION OR REASON FOR USING HUSTED'S AIR CYLINDER IN THE INVENTION OF FUKUDA?

In said Final Office Action, dependent claims 3 and 18 were rejected under 35 U.S.C. 103 as being obvious over Fukuda, the Examiner stating that it would have been obvious to substitute an "additional air cylinder" in the rejected claims in place of the screw axis 59 of Fukuda for assisting in the movement of the heater 55 because it is stated in Fukuda that

"different combinations of motion-communicating and torque-communicating means can be substituted" (column 8, lines 34-36).

ISSUE 3: WOULD IT HAVE BEEN OBVIOUS TO SUBSTITUTE AN ADDITIONAL AIR CYLINDER IN PLACE OF THE SCREW AXIS 59 OF FUKUDA?

VII. Grouping of Claims

It is Applicant's intention that all claims 1-5 and 18-20 stand or fall together, as far as the reason of rejection stated in the Final Office Action is concerned.

VIII. Arguments

ISSUE 1: DOES FUKUDA DISCLOSE AN AIR CYLINDER FOR CONTROLLING THE COMPRESSIVE FORCE OF THE HEATER UNIT AND FILM?

It is the air cylinder shown at 78 in Fukuda that is at issue. The functions of this air cylinder 78 are described in Fukuda only as being "to remove the vertical-seal belt 55 away from the film material S" (column 8 at lines 17-18) and such that "the vertical-seal belt 55 is made to contact the film material S again" (column 8 at lines 22 and 23). Nowhere else does Fukuda explain the function of the air cylinder 78. In other words, there is no statement in Fukuda that the air cylinder 78 functions to control the compressive force between the belt (serving as the "heater unit") 55 and the film S. When the air cylinder 78 causes the heater unit 55 to start moving from a retracted position away from the film S and to come into contact with the film S, there will certainly be a change in the pressure on the film, or the heater unit 55, by coming into contact with the film, may be said to inherently "affect" the pressure, but this is not to say that the air cylinder 78 "controls" the pressure in the ordinary sense of the expression. When a pressure is said to be controlled, one normally means that the pressure is affirmatively increased or decreased such that a specified target pressure is approached. Fukuda's air cylinder 78 is not

operated in such a fashion; Fukuda does not introduce any concept of a target pressure to be attained and does not attempt to vary the pressure in order to make it approach any target value. Thus, the Examiner's allegation that the air cylinder 78 is "for controlling the compressive force of the heater unit 55 and film S" (lines 6-7 in Paragraph 2 of the second Final Office Action) is at least misleading and is false and incorrect.

ISSUE 2: WAS THERE ANY MOTIVATION OR REASON FOR USING HUSTED'S AIR CYLINDER IN THE INVENTION OF FUKUDA?

The Examiner recognized that Fukuda does not disclose any pressure regulating means and concluded that it would have been obvious to use Husted's air cylinder with a pressure control system in the invention of Fukuda. It is well accepted, however, that a claim in a patent application cannot be rejected as being obvious by collecting bits and pieces from different references. The motivation to modify the prior art must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the claimed invention. Evidence of such motivation may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. In the case of Fukuda, the subject air cylinder 78 is not for the purpose of controlling the compressive force of the heater unit on the film, in spite of the Examiner's allegation, but instead for the purpose of moving the heater unit towards (so as to contact) and away from the film, as explained above regarding ISSUE 1. Nowhere does Fukuda mention the control of pressure between the heater unit and the film, much less any desirability of so controlling the pressure. Thus, there cannot be said to have been any motivation or reason for using Husted's air cylinder in the invention of Fukuda.

Moreover, even if Husted's air cylinder with a system "for controlling or regulating the air pressure to the air cylinder" (lines 5-6 of Paragraph 4 of the second Final Office Action) were simply substituted for Fukuda's air cylinder 58, that would not result in any packaging machine

according to the claims being rejected. This is because Fukuda's air cylinder 78 is characterized as serving to move the seal belt towards or away from the film material "in accordance with the motion of the pull-down belts" 30 (column 2, lines 42-48) and this is accomplished, as shown in Fig. 8, by means of a single servo motor 45 providing power to operate both the pull-down belts 30 and the seal belt 55. The air cylinder 78 is inserted in the power-communicating route between the servo motor 45 and the seal belt 55. If Husted's air cylinder were to be substituted into the invention of Fukuda, it must be within the framework of Fukuda's invention as characterized above and hence the substituted air cylinder according to Husted with whatever control means would necessarily be placed also within the power-communicating route between the servo motor 45 and the seal belt 55 such that the seal belt 55 can be moved towards and away from the film S "in accordance with the motion of the pull-down belts". This is because to place Husted's air cylinder outside the power-communicating route between the servo motor 45 and the seal belt 55 would be contrary to the teaching by Fukuda. According to the example of Fukuda's Fig. 8, there would be a pair of mutually engaged gears (not indicated by numerals), a universal joint 68, a screw 59 and a bearing 58 between the servo motor 45 and the Husted's air cylinder which would be taking the place of the air cylinder 78 according to the Examiner's teaching. As the servo motor 45 is activated to move the pull-down belts 30, Husted's air cylinder replacing Fukuda's air cylinder 78 according to the Examiner's teaching would also start moving. The control means for Husted's air cylinder would have to be controlled by taking this motion of Husted's air cylinder into account in order to control the pressure between the seal belt 55 and the film S. This would be a very complicated control. A person skilled in the art is not likely to find it an attractive control method.

ISSUE 3: WOULD IT HAVE BEEN OBVIOUS TO SUBSTITUTE AN ADDITIONAL AIR CYLINDER IN PLACE OF THE SCREW AXIS 59 OF FUKUDA?

The Examiner cited Fukuda's statement that "different combinations of motion-communicating and torque-communicating means can be substituted" (column 8, lines 34-36) but it should be noted that this statement is made in connection with Figs. 5 and 8 (column 8, lines 31-32). Nowhere is Fukuda saying that his screw axis 59 can be replaced by an additional cylinder. Fukuda shows many motion-communicating and torque-communicating means in Figs. 5, 7 and 8 such as the universal joint 68, the screw 59, the turnbuckle 46 and the Schmidt couplings 38. Fukuda is merely saying that these can be replaced by more conventional communicating means such as gears and pulleys with belts. It is only the Examiner, and the Examiner alone, that is making the suggestion that Fukuda's screw axis 59 can be replaced by the likes of an air cylinder. It should immediately be clear that this would be an unreasonable replacement because an air cylinder is not a motion-communicating or torque-communicating means in the ordinary sense of the word. A motion-communicating or torque-communicating means is a means for receiving motion or torque and transmitting this received motion or torque to another entity. An air cylinder does not function that way. An air cylinder generates motion by its piston, and it is normally neither done nor considered obvious to replace a motion-communicating or torque-communicating means with a motion-providing means.

If the screw axis 59 of Fukuda were replaced by an additional air cylinder, according to the unique suggestion of the Examiner, this additional air cylinder would necessarily be serving as a motion and/or torque communicating means placed between the servo motor 45 and the seal belt 55, transmitting the motion and/or torque provided from the servo motor 45 to the seal belt 55. It is not clear at all from the suggestion by the Examiner how this air cylinder is to be controlled, in view of the motion and/or torque provided from the servo motor 45 and received by this additional air cylinder, to deliver motion and/or torque to the seal belt.

It should be noted, furthermore, ISSUE 3 relates to claims 3 and 18 which are both dependent claims and hence inherit all of the limitations in the independent claim from which they depend. Thus, the packaging machines both according to claims 3 and 18 are adapted to control the compressive pressure between the heater unit and the film by an air cylinder. A combination of the servo-motor 45 (which also controls the motion of the pull-down belts 30) and an additional air cylinder, as suggested by the Examiner, with a universal joint 68 and a set of mutually engaging gears (not indicated by numerals in Fig. 8) in between may not be totally incapable of controlling the compressive pressure between the seal belt 55 and the film S but there is no reason to believe that such a combination would make the control easier, there being instead reasons to believe that the control would be more difficult.

CONCLUSION

ISSUE 1 indicates that Fukuda does not disclose or even hint at any air cylinder that controls the compressive force of the heater unit and hence that the Examiner was wrong in his allegation.

ISSUE 2 indicates that there was no motivation for using Husted's air cylinder in the invention of Fukuda and that, if Husted's air cylinder were used in the invention of Fukuda, the purpose of the invention would not be served any better, or hardly at all.

ISSUE 3 indicates that the Examiner had only a confused idea of a motion-communicating and torque-communicating means, that it is unthinkable to replace the screw axis 59 in Fig. 8 of Fukuda with an additional air cylinder as suggested by the Examiner, and that if such a replacement as suggested by the Examiner were made, the result would not even remotely resemble packaging machines according to the rejected claims because it is not apparent at all

whether the compressive force between the heater unit and the film can be controlled in any practical manner.

Rejection of claims 1-5 and 18-20 should be reversed.

Respectfully submitted,



Dated: September 25, 2003

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IX. Appendix of Claims Involved in the Appeal

1. A packaging machine comprising:
a cylindrical chute;
means for bending an elongated bag-making film into a tubular form around said chute by mutually overlapping side edges of said film;
a heater unit for longitudinally sealing said mutually overlapping side edges of said film;
heater driving means for moving said heater unit between a sealing position at which said heater unit contacts said film and a retracted position at which said heater unit is separated from said chute; and
an air cylinder for controlling compressive force with which said heater unit at said sealing position compresses said film against said chute by having air of a specified pressure supplied thereto.
2. A packaging machine comprising:
a cylindrical chute;
means for bending an elongated bag-making film into a tubular form around said chute by mutually overlapping side edges of said film;
a heater unit for longitudinally sealing said mutually overlapping side edges of said film;
heater driving means for moving said heater unit between a sealing position at which said heater unit contacts said film and a retracted position at which said heater unit is separated from said chute;
an air cylinder for controlling compressive force with which said heater unit at said sealing position compresses said film against said chute by having air of a specified pressure supplied thereto;
pressure regulating means for regulating air pressure supplied to said air cylinder to a specified pressure level; and
a controller for controllably varying said specified pressure level.
3. The packaging machine of claim 1 wherein said heater driving means includes another air cylinder.
4. The packaging machine of claim 1 further comprising a support unit which supports said heater unit and is slidable towards and away from said chute, said heater driving

means operating to move said heater unit between said sealing position and said retracted position by moving said support unit, said air cylinder acting only on said heater unit to control said compressive force.

5. The packaging machine of claim 4 further comprising support unit moving means for moving said support unit between a work area which includes both said sealing position and said retracted position and a non-working area which is farther away from said chute than said work area.

18. The packaging machine of claim 2 wherein said heater driving means includes another air cylinder.

19. The packaging machine of claim 2 further comprising a support unit which supports said heater unit and is slidable towards and away from said chute, said heater driving means operating to move said heater unit between said sealing position and said retracted position by moving said support unit, said air cylinder acting only on said heater unit to control said compressive force.

20. The packaging machine of claim 19 further comprising support unit moving means for moving said support unit between a work area which includes both said sealing position and said retracted position and a non-working area which is farther away from said chute than said work area.